website:http://biz.LGservice.com
e-mail:http://www.LGEservice.com/techsup.html

# LCD TV
# SERVICE MANUAL

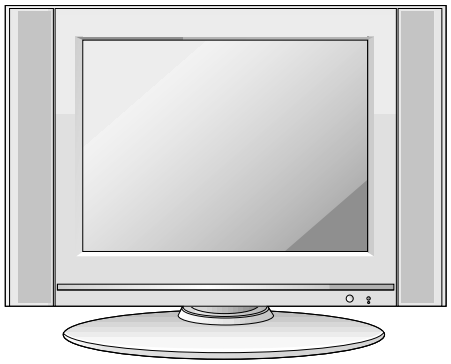
**CHASSIS : ML-041B**

## MODEL : RM/RZ-20LA70(RM-20LA70 Rev A)

***(  ) ID LABEL Model No.**

**CAUTION**

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



***Same looking with new chassis**

***Issue Date; 2004. 06**

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# SAFETY PRECAUTIONS

## IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and Replacement Parts List.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

### General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

### X-RAY Radiation

*Warning:*

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the LCD PANEL.
For continued X-RAY RADIATION protection, the replacement panel must be the same type panel as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum.
Measure the high voltage.
The meter reading should indicate
23.5 ± 1.5KV: 14-19 inch, 26 ± 1.5KV: 19-21 inch,
29.0 ± 1.5KV: 25-29 inch, 30.0 ± 1.5KV: 32 inch
If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

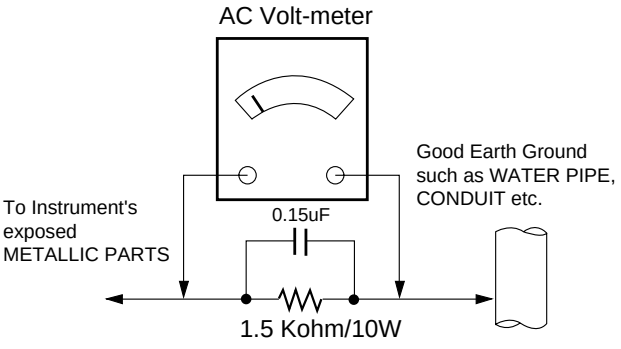
**Before returning the receiver to the customer,**

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

**Leakage Current Cold Check(Antenna Cold Check)**
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

**Leakage Current Hot Check** (See below Figure)
Plug the AC cord directly into the AC outlet.
**Do not use a line Isolation Transformer during this check.**
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.
In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

**Leakage Current Hot Check circuit**



# SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.

*NOTE:* If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
   **CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe.
   Do not test high voltage by "drawing an arc".
3. Do not spray chemicals on or near this receiver or any of its assemblies.
4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
   **CAUTION:** This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
8. *Use with this receiver only the test fixtures specified in this service manual.*
   **CAUTION:** Do not connect the test fixture ground strap to any heat sink in this receiver.

**Electrostatically Sensitive (ES) Devices**

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   **CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500 °F to 600 °F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle.
   Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500 °F to 600 °F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500 °F to 600 °F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   **CAUTION:** Work quickly to avoid overheating the circuit board printed foil.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

**IC Remove/Replacement**

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

*Removal*

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

*Replacement*

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

**"Small-Signal" Discrete Transistor Removal/Replacement**

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

**Power Output, Transistor Device Removal/Replacement**

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

**Diode Removal/Replacement**

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

**Fuse and Conventional Resistor Removal/Replacement**

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
   **CAUTION:** Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

**Circuit Board Foil Repair**

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

*At IC Connections*

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

*At Other Connections*

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   **CAUTION:** Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

# SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

## 1. Application range

This specification is applied to ML-041B chassis.

## 2. Requirement for Test

Testing for standard of each part must be followed in below condition.

(1) Temperature: 25°C ± 2°C
(2) Humidity: 65% ± 10%
(3) Power: Standard input voltage (AC 100-240V, 50/60Hz)
(4) Measurement must be performed after heat-run more than 30min.
(5) Adjusting standard for this chassis is followed a special standard.

## 3.General Specification

| No. | Item | Specification | Remark |
|---|---|---|---|
| 1 | Maker | LPL | LPL |
| | Type | TFT Color LCD Module | |
| | ActiveDisplay Area | 20.1 inches(380.16mm) diagonal(Aspect 4:3) | |
| | Pixel Pitch [mm] | 0.6375mm(H)x0.6375mm(V)xRGB | |
| | Electrical Interface | TTL | |
| | Color Depth | 8BIT, 16,777,216 colors | |
| | Size [mm] | 450(H)x 348.7(V)x20(D) | |
| | Surface Treatment | Glare, Hard Coating(3H) | |
| | Operating Mode | Normally Black | |
| | Back light Unit | 6 CCFL(6 lamps) | |
| | R/T Typ. | 16ms(R.T.:7/10ms + F.T.:18/20ms) | |
| 2 | Maker | AUO | AUO |
| | Type | TFT Color LCD Module | |
| | ActiveDisplay Area | 20.1 inches(510.00mm) diagonal | |
| | Pixel Pitch [mm] | 0. 6376mm(H)x0.6375mm(V)xRGB | |
| | Electrical Interface | TTL | |
| | Color Depth | 8-BIT 16,777.216 Colors | |
| | Size [mm] | 434(H)x331.6(V)x29.6(D) | |
| | Surface Treatment | Hard Coating, AR,Glare (3H) | |
| | Operating Mode | Normally Black | |
| | Back light Unit | 6 CCFL(6 lamps) | |
| | R/T Typ. | 16ms | |
| 3 | Maker | CMO | CMO |
| | Type | TFT Color LCD Module | |
| | ActiveDisplay Area | 20.1 inches(510.00mm) diagonal | |
| | Pixel Pitch [mm] | 0. 6375mm(H)x0.6375mm(V)xRGB | |
| | Electrical Interface | TTL | |
| | Color Depth | 8-BIT 16,777.216 Colors | |
| | Size [mm] | 448(H)x339.6(V)x25(D) | |
| | Surface Treatment | Anti Glare, Hard Coating(3H) | |
| | Operating Mode | Normally Black | |
| | Back light Unit | 6 CCFL(6 lamps) | |
| | R/T Typ. | 16ms(R.T.:5/7ms + F.T.:11/14ms) | |

## 4. Feature and Function

| No. | Item | Specification | Remark |
|---|---|---|---|
| 1 | Teletext | TOP, FLOF | Top(option) |
| 2 | REMOCON | NEC Code | PAL/ NTSC |
| 3 | CVBS VIDEO Input | 1 | Rear |
| 4 | S-VIDEO Input | 1 | Rear |
| 5 | Component input | 1 | Rear (option, NT) |
| 6 | PERI TV Connector | Full SCART : 1 | Rear (option,EU) |
| 7 | H/p input | 1 | Rear |
| 8 | RS-232 | NO | |
| 9 | Discrete IR | NO | |
| 10 | 2 Carrier Stereo | BG, DK | |
| 11 | NICAM Stereo | BG, I, LL' | |
| 12 | 2 Carrier Dual | BG, DK | |
| 13 | NICAM Dual | BG, I, LL' | |
| 14 | DW(Double Window) Mode | X | |
| 15 | MW(Multi Window) Mode | X | |
| 16 | Film Mode | O | |
| 17 | Noise Reduction | X | |
| 18 | Progressive Scan | O | |
| 19 | Motion Detection | X | |
| 20 | SRS WOW | X | |
| 21 | wivel Speaker | X | |
| 22 | Ez-pip | X | |
| 23 | ARC | O | |
| 24 | DRP | O | |
| 25 | DCDI | X | |
| 26 | HDCP | X | |

## 5.Optical Character

| No. | Item | Specification | | | | | | Remark |
|---|---|---|---|---|---|---|---|---|
| | | | | | LPL | CMO | CMO | |
| 1 | Viewing Angle | R/L, | | | 85/85 | 80/80 | 85/85 | |
| | <CR≥10> | U/D | | | 85/85 | 75/65 | 90/90 | |
| 2 | Luminance | Luminance(cd/㎡) | | | 400 | 450 | 450 | Typical |
| | | Variation | | | 1.3 | 1.3 | 1.3 | MAX/MIN |
| 3 | Contrast Ratio | | | | 400 | 500 | 600 | ALL white/All black |
| 4 | CIE Color Coordinates | WHITE | $W_X$ | Typ. | 0.289 | 0.285 | 0.31 | |
| | | | $W_Y$ | Typ. | 0.335 | 0.293 | 0.33 | |
| | | RED | $W_r$ | Typ. | 0.692 | 0.692 | 0.64 | |
| | | | $Y_r$ | Typ. | 0.335 | 0.332 | 0.34 | |
| | | Green | $X_g$ | Typ. | 0.289 | 0.276 | 0.29 | |
| | | | $Y_g$ | Typ. | 0.583 | 0.601 | 0.61 | |
| | | Blue | Xb | Typ. | 0.143 | 0.142 | 0.14 | |
| | | | Yb | Typ. | 0.909 | 0.075 | 0.07 | |

## 6.Engineering Specification

| No. | Item | Specification | | | Remark |
|---|---|---|---|---|---|
| 1 | Power Supply | H/V Sync | Video | Power Consumption | LED Color |
| | Normal | On/On | Active | ≤ 65W | GREEN |
| | Stand By<br>Suspend Mode<br>DPM Off Mode | Off/On<br>On/Off<br>Off/Off | Off | ≤ 1W<br>≤ 1W<br>≤ 1W | LED |
| | Cut-off Switch off | - | - | 0W | OFF |
| | | | | PBP SWAP ▶ ON/OFF | |
| | ITEM | Spectification | | | Remark |
| 2 | D-SUB Pin Configuraion | 1: RED<br>3: Blue:<br>5: S.T(GND)<br>7: Green GND<br>9: N.C<br>11: ID0(GND)<br>13: H-Sync<br>15: SCL | 2: Green<br>4: ID2(GND)<br>6: RED GND<br>8: Blue GND<br>10: D-GND<br>12: SDA<br>14: V-Sync<br>Shell: GND | | 10: Digital GND |
| 3 | Control Function | 1) Contrast/Brightness<br>2) H-Position/V-Position<br>3) Tracking : Clock/ Phase<br>4) Auto Configure<br>RESET | | | |
| 4 | Comoponent Jack | 1: Y<br>3: Pb<br>5: Pr | | | Middle east/<br>NTSC Area |
| 5 | D4 Jack<br>(525i, 525p, 750p, 1125i) | 1: Y GND<br>2: Pb<br>5: Pr<br>7: LINE1 Ready<br>9: Line2<br>11: Line3<br>13: Line3 ready | 2: Y GND<br>4: Pb GND<br>6: Pr GND<br>8: LINE1<br>10: Line2 Ready<br>12: SWITCH GND<br>14: SWITCH | | JAPAN Only |

## 6-2.Power

| NO | Item | Min | Typ | Max | Unit | Remark |
|---|---|---|---|---|---|---|
| 1 | AC Power Shut Down Voltage | 90 | | 264 | V | |
| 2 | DC Voltage, Inverter | 22.8 | 24 | 25.2 | V | |
| 3 | DC Voltage, LCD Panel | 11.4 | 12 | 12.6 | V | |
| 4 | DC Voltage, Audio | 14.0 | 15 | 16.0 | V | |
| 5 | DC Voltage, Tuner(5) | 4.5 | 5 | 5.5 | V | |
| | DC Voltage, Tuner(9) | 8.5 | 9 | 9.5 | V | Japan only |
| 6 | DC Voltage, Tuning(31) | 31 | 33 | 35 | V | |
| 7 | DC Voltage, VCTi(5) | 4.5 | 5 | 5.5 | V | |
| | DC Voltage, VCTi(8) | 7.5 | 8 | 8.5 | V | |
| 8 | DC Voltage, VCTi(3.3) | 3.1 | 3.3 | 3.5 | V | |
| | DC Voltage, VCTi(1.8) | 1.6 | 1.8 | 2.0 | V | |
| 9 | DC Voltage, GM2221 (3.3) | 3.1 | 3.3 | 3.5 | V | |
| | DC Voltage, GM2221 (1.8) | 1.6 | 1.8 | 2.0 | V | |
| 10 | DC Voltage, Digital (3.3) | 2.8 | 3.3 | 3.8 | V | |
| 11 | DC Voltage, Digital (5) | 4.5 | 5 | 5.5 | V | |

## 6-3. External Interface

| NO | Item | Min | Typ | Max | Unit | Remark | |
|---|---|---|---|---|---|---|---|
| 1. | Video Input Level | 0.85 | 1 | 1.15 | Vpp | EN-50049 | |
| 2. | Audio Input Level | 0.4 | 0.5 | 0.6 | V | NTSC:0.4Vrms(Typ) | |
| 3. | Audio Input Frequency Response | 0.1 | | 7 | KHz | | |
| 4. | Audio Input S/N | 40 | | | DB | | |
| 5. | Audio Input Distortion | | | 2 | % | | |
| 6. | Audio Input Dynamic Range | 2 | | | V | | |
| 7. | Video Output Level | 0.85 | 1 | 1.15 | Vpp | | |
| 8. | Video Output Frequency Response | 3.8 | | | MHz | | |
| 9. | Video Output S/N | 40 | | | DB | | |
| 10. | Audio Output Level | 0.4 | 0.5 | 0.6 | V | | |
| 11. | Audio Output Frequency Response | 0.1 | | 7 | KHz | | |
| 12. | Audio Output S/N | 40 | | | DB | | |
| 13. | Audio Output Distortion | | | 2 | % | | |
| 14. | Video Input Level, R/G/B | 0.6 | 0.7 | 0.8 | Vpp | 75 ohm | |
| 15. | Video Input Level, Component(Y, PB, PR) | 0.6 | 0.7 | 0.8 | Vpp | 75 ohm | |
| 16. | RGB Input Resolution, Vertical | | 768 | | Pixel | Only 20" | 640 Pixel |
| 17. | RGB Input Resolution, Horizontal | | 1280 | | Pixel | | 480 |
| 18. | RGB Input Horizontal Frequency | | | | KHz | See table 5-5 | |
| 19. | RGB Input Frame Rate | | | | Hz | See table 5-5 | |

## 6-4. The Others

| NO | Item | Min | Typ | Max | Unit | Remark |
|---|---|---|---|---|---|---|
| 1 | Search Sensitivity | | | -85 | dBm | |
| 2 | Soft Ware Functionality Test | | | | | LGE Specification |
| 3 | REMOCON Working Sensitivity, Straight | 0.1 | | 10 | m | |
| 4 | REMOCON Working Sensitivity, T/B/L/R | 0.1 | | 9 | m | 30 degree |
| 5 | Closed Caption Sensitivity | | | -70 | dBm | NTSC ONLY |
| 6 | Teletext Sensitivity | | | -70 | dBm | |

# ADJUSTMENT INSTRUCTION

## 1. Application Object

This instruction is for the application to the LCD TV.

## 2. Adjustment

### 2.1 Adjustment overview

The unit is set to automatically adjust using the factory automation equipment. However when errors occur, it should be adjusted manually.

### 2.2 Auto Gain/Offset adjustment

**2.2.1 RF Mode adjustment**

**2.2.1.1 Adjustment preparation**

■Conduct Heat Run at the RF fog signals for more than 30 minutes.

**2.2.1.2 Auto Gain/Offset adjustment**

■Press IN-START Key to convert to the adjustment mode using the adjustment (SVC) remote controller, and press VOL+ Key at the Auto Gain menu.
(In case of RM-20LA70, press IN-START Key twice)

■ Once the adjustment is completed, press the Enter Key to save and finish the adjustment.

**2.2.2 Component Mode adjustment**

**2.2.2.1** Adjustment preparation

■Conduct Heat Run at the RF fog signals for more than 30 minutes.

■ Connect the Pattern Generator to the Component Jack (Y, Pb, Pr) of LCD TV.

**2.2.2.2** Auto Gain/Offset adjustment

■ Convert the input mode to the component input.

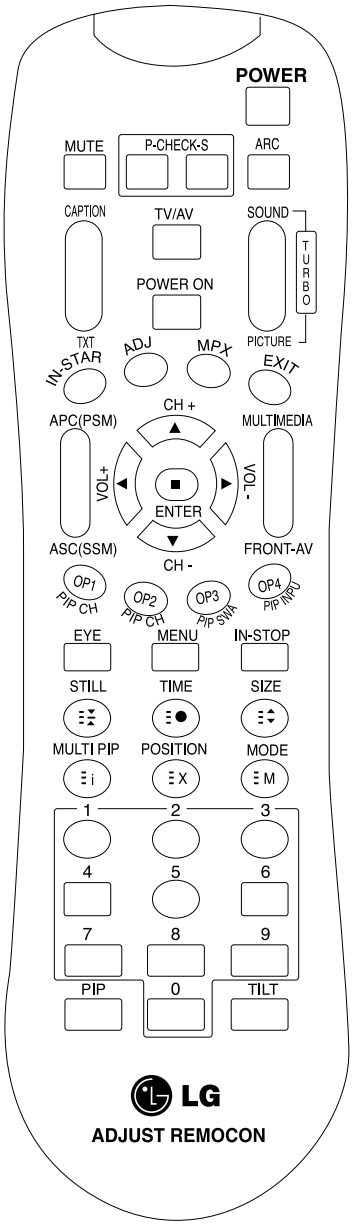
■ Using the Pattern Generator (801GF, VG819) adjust 480P for resolution and Color Bar
signals for patterns. Or adjust Color Bar signals in accordance with VG819.

■ Press the IN-START Key to convert into the adjustment mode using the adjustment (SVC) remote controller, and press VOL+ Key at the Auto Gain menu.

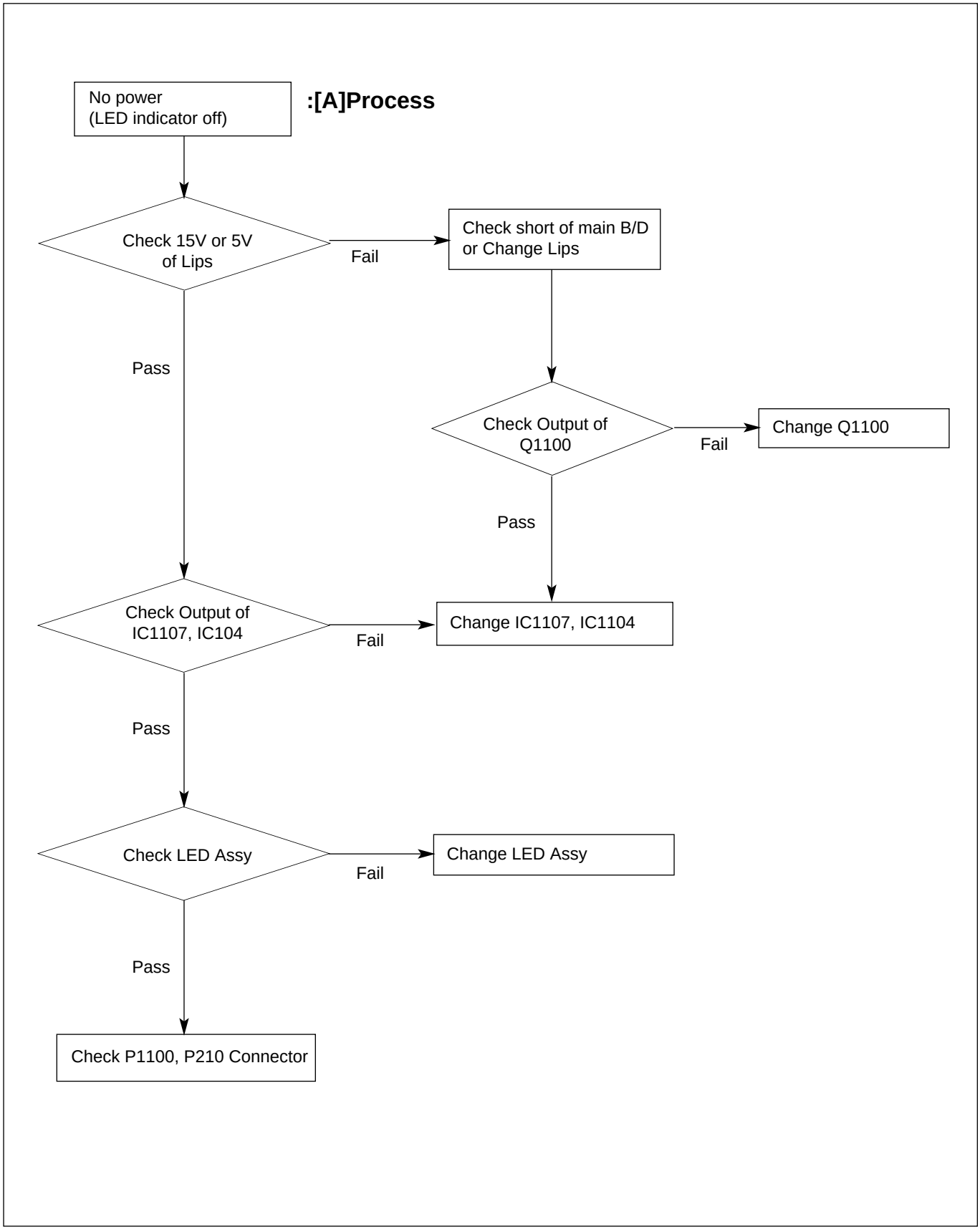
■ Once the adjustment is completed, press the Enter Key to save and finish the adjustment

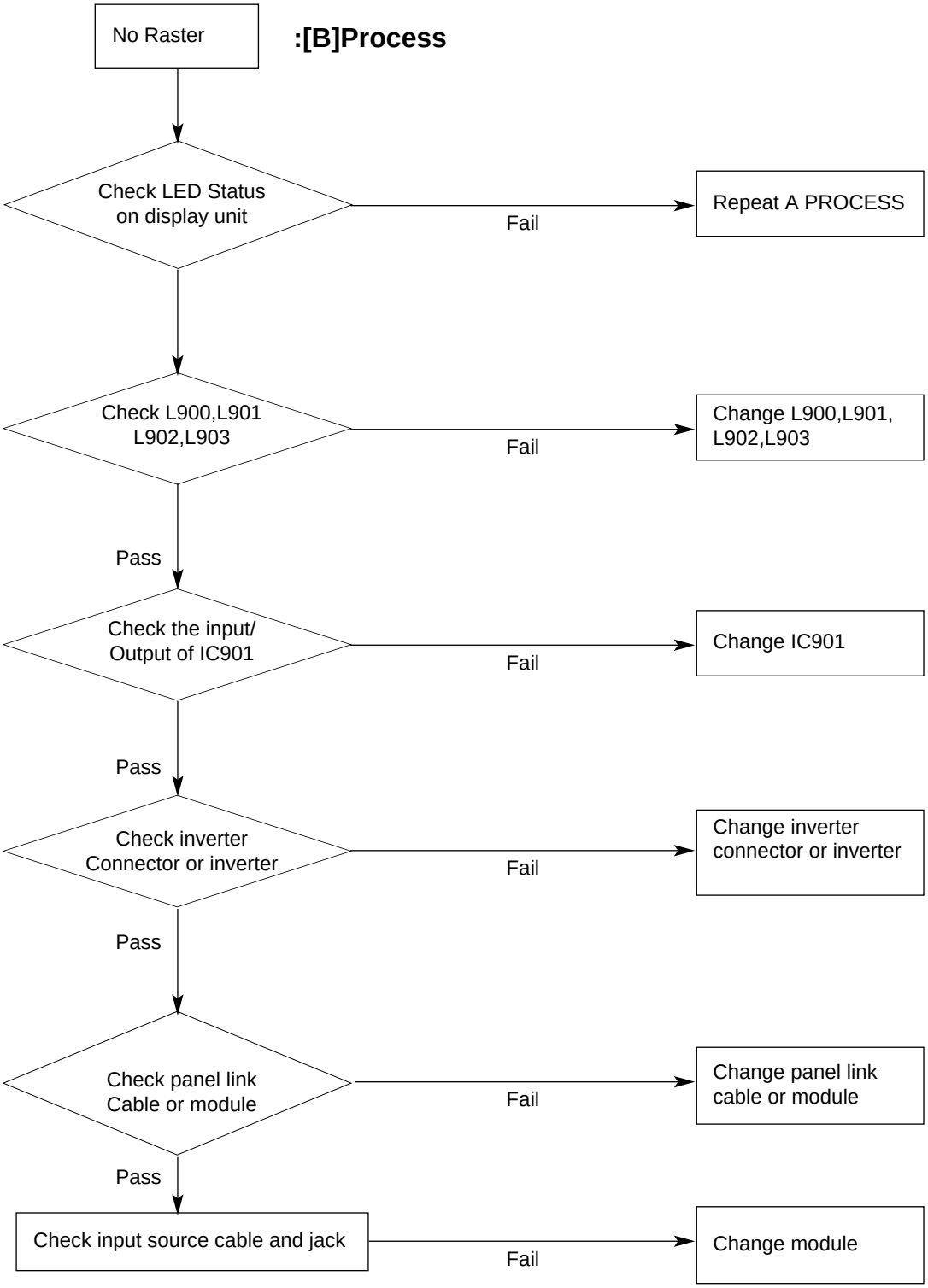
# SVC REMOCON

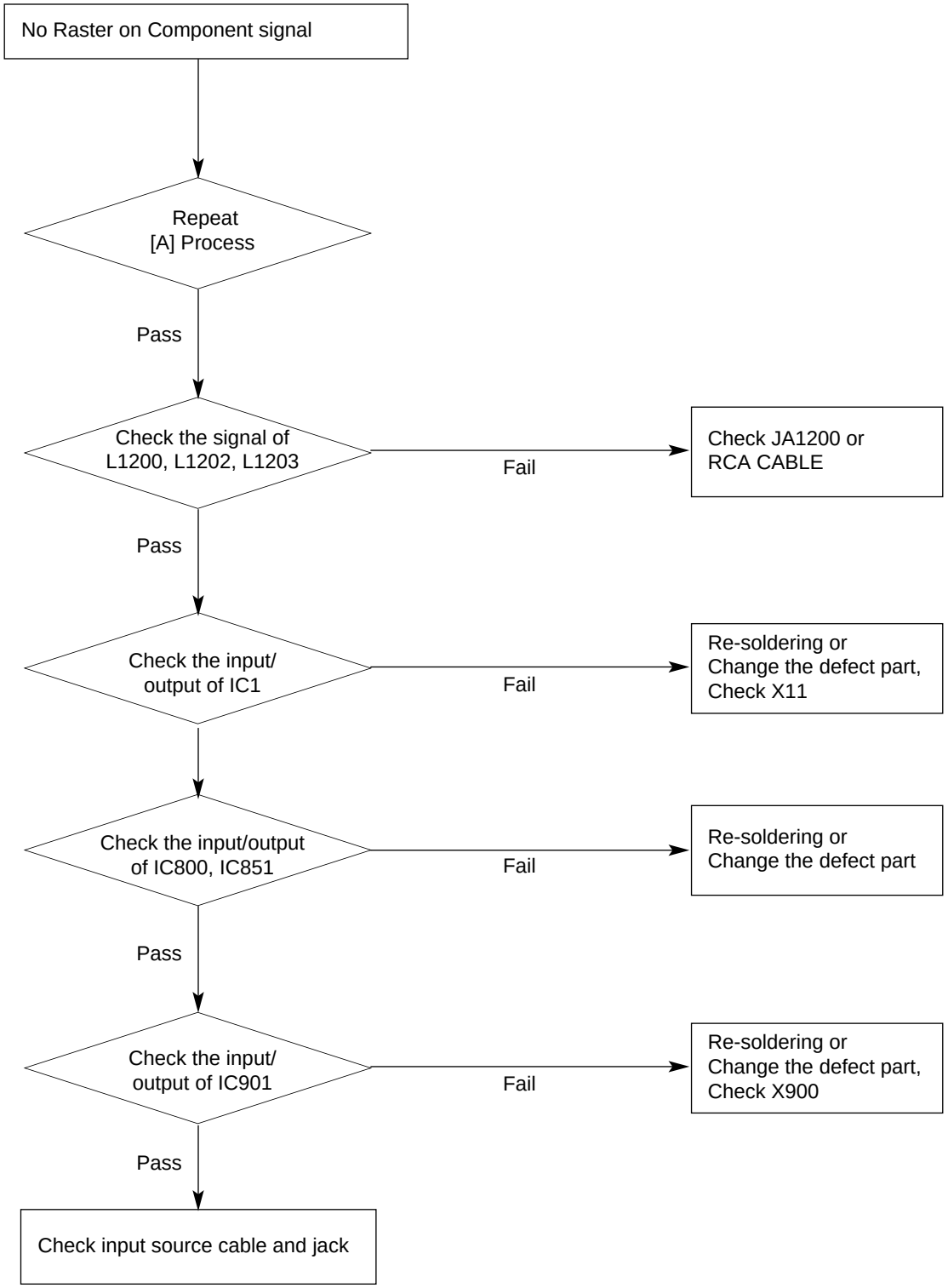
| NO | KEY | FUNTION | REAMARK |
|---|---|---|---|
| 1 | POWER | To turn the TV on or off | |
| 2 | POWER ON | To turn the TV on automatically if the power is supplied to the TV. (Use the POWER key to deactivate): It should be deactivated when delivered. | |
| 3 | MUTE | To activate the mute function. | |
| 4 | P-CHECK | To check TV screen image easily. | Shortcut keys |
| 5 | S-CHECK | To check TV screen sound easily | Shortcut keys |
| 6 | ARC | To select size of the main screen (Normal, Spectacle, Wide or Zoom) | Shortcut keys |
| 7 | CAPTION | Switch to closed caption broadcasting | |
| 8 | TXT | To toggle on/off the teletext mode | |
| 9 | TV/AV | To select an external input for the TV screen | |
| 10 | TURBO SOUND | To start turbo sound | |
| 11 | TURBO PICTURE | To start turbo picture | |
| 12 | IN-START | To enter adjustment mode when manufacturing the TV sets. | Use the AV key to enter the screen W/B adjustment mode. |
| | | To adjust the screen voltage (automatic):<br>In-start →mute →Adjust →AV(Enter into W/B adjustment mode) | |
| | | W/B adjustment (automatic):<br>After adjusting the screen →W/B adjustment →Exit two times (Adjustment completed) | |
| 13 | ADJ | To enter into the adjustment mode. To adjust horizontal line and sub-brightness. | |
| 14 | MPX | To select the multiple sound mode (Mono, Stereo or Foreign language) | |
| 15 | EXIT | To release the adjustment mode | |
| 16 | APC(PSM) | To easily adjust the screen according to surrounding brightness | |
| 17 | ASC(SSM) | To easily adjust sound according to the program type | |
| 18 | MULTIMIDIA | To check component input | Shortcut keys |
| 19 | FRONT-AV | To check the front AV | Shortcut keys |
| 20 | CH± | To move channel up/down or to select a function displayed on the screen. | |
| 21 | VOL± | To adjust the volume or accurately control a specific function. | |
| 22 | ENTER | To set a specific function or complete setting. | |
| 23 | PIP CH-(OP1) | To move the channel down in the PIP screen.<br>To use as a red key in the teletext mode | |
| 24 | PIP CH+(OP2) | To move the channel in the PIP screen<br>To use as a green key in the teletext mode | |
| 25 | PIP SWAP(OP3) | To switch between the main and sub screens<br>To use as a yellow key in the teletext mode | |
| 26 | PIP INPUT(OP4) | To select the input status in the PIP screen<br>To use as a blue key in the teletext mode | |
| 27 | EYE | To set a function that will automatically adjust screen status to match the surrounding brightness so natural color can be displayed. | |
| 28 | MENU | To select the functions such as video, voice, function or channel. | |
| 29 | IN-STOP | To set the delivery condition status after manufacturing the TV set. | |
| 30 | STILL | To halt the main screen in the normal mode, or the sub screen at the PIP screen.<br>Used as a hold key in the teletext mode (Page updating is stopped.) | |
| 31 | TIME | Displays the teletext time in the normal mode<br>Enables to select the sub code in the teletext mode | |
| 32 | SIZE | Used as the size key in the PIP screen in the normal mode<br>Used as the size key in the teletext mode | |
| 33 | MULTI PIP | Used as the index key in the teletext mode (Top index will be displayed if it is the top text.) | |
| 34 | POSITION | To select the position of the PIP screen in the normal mode<br>Used as the update key in the teletext mode (Text will be displayed if the current page is updated.) | |
| 35 | MODE | Used as Mode in the teletext mode | |
| 36 | PIP | To select the simultaneous screen | |
| 37 | TILT | To adjust screen tilt | Shortcut keys |
| 38 | 0~9 | To manually select the channel. | |

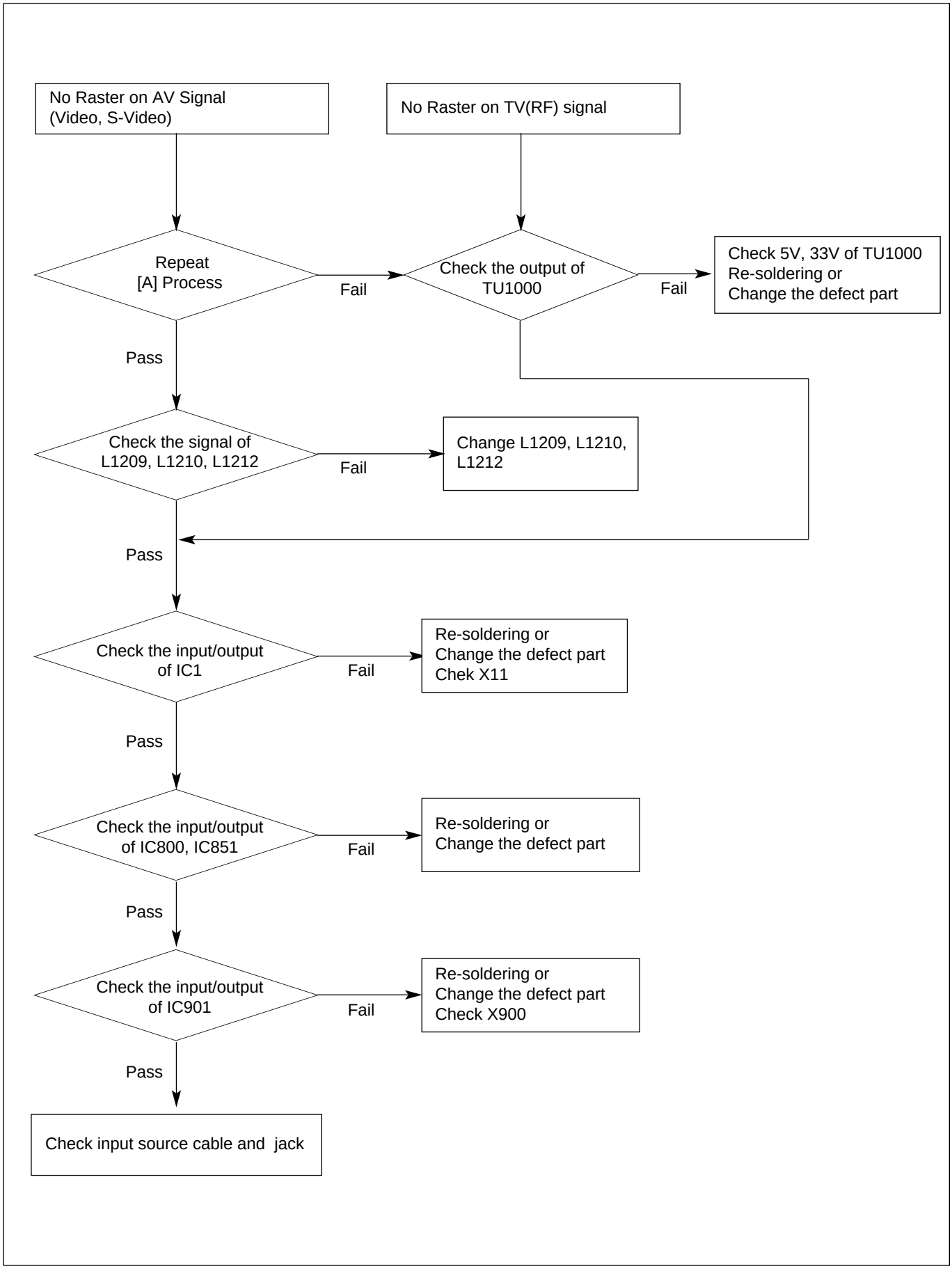


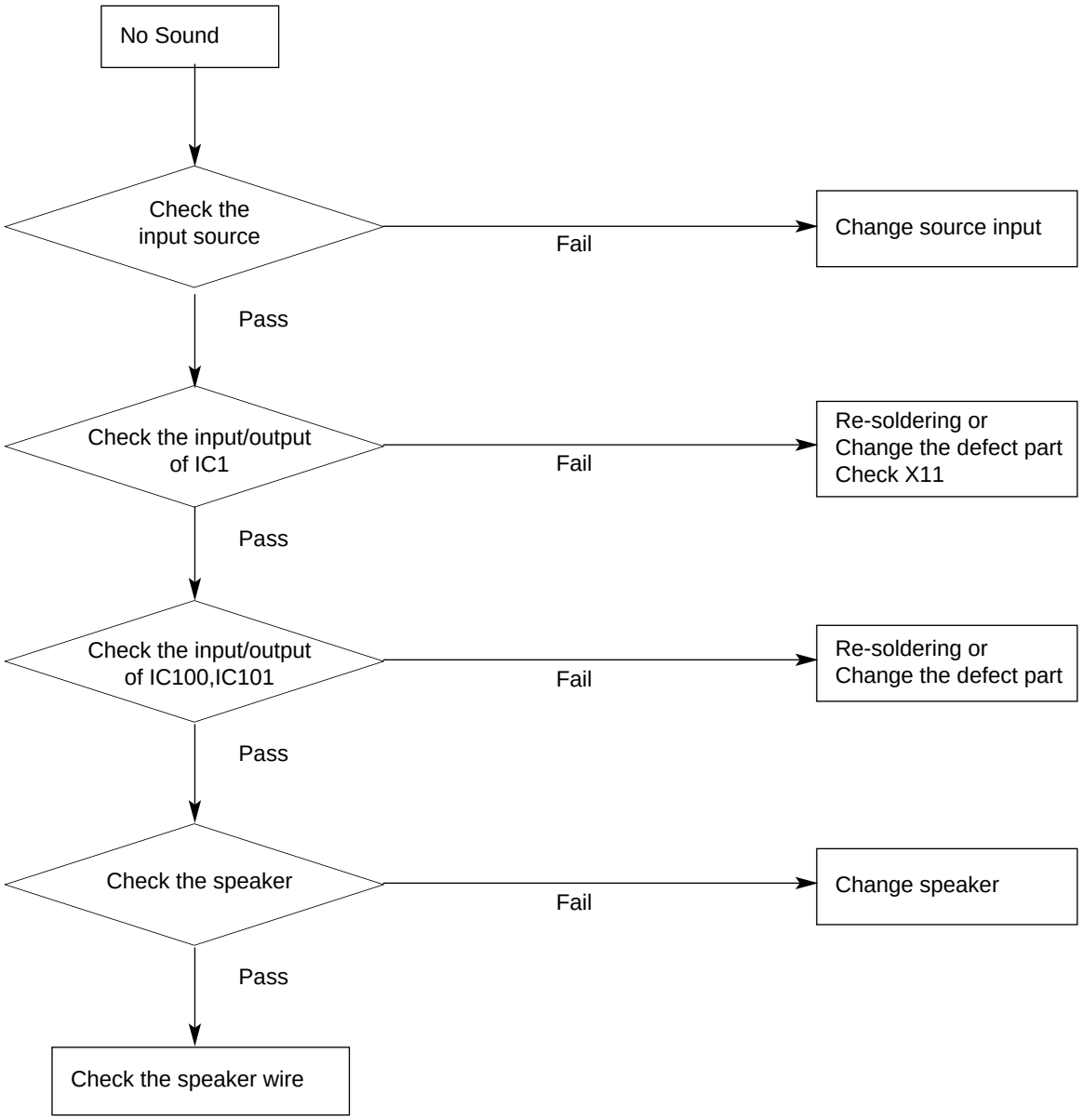
# TROUBLESHOOTING



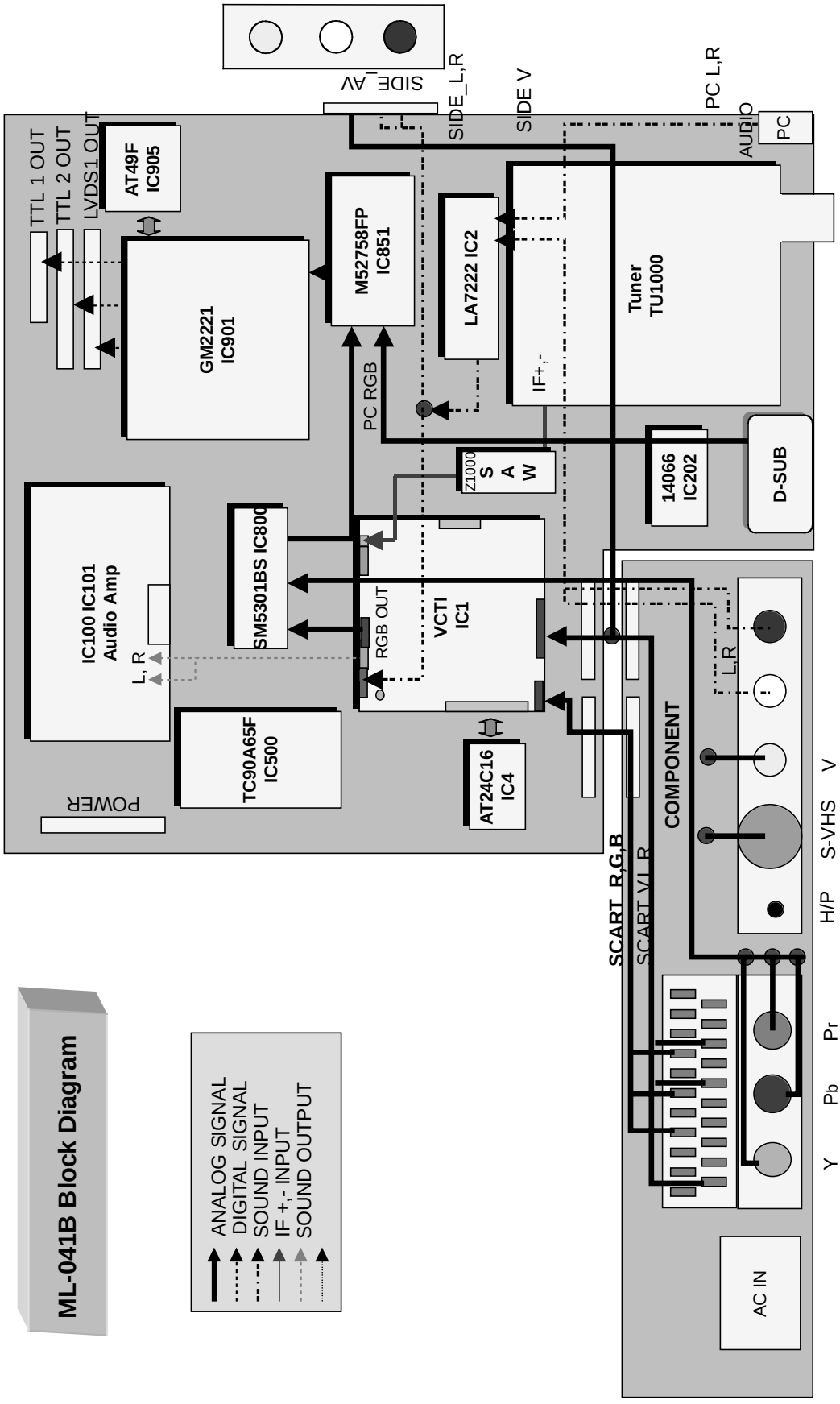

No Raster
:[B]Process
Check LED Status on display unit
Fail
Repeat A PROCESS
Check L900,L901 L902,L903
Fail
Change L900,L901, L902,L903
Pass
Check the input/ Output of IC901
Fail
Change IC901
Pass
Check inverter Connector or inverter
Fail
Change inverter connector or inverter
Pass
Check panel link Cable or module
Fail
Change panel link cable or module
Pass
Check input source cable and jack
Fail
Change module


No Raster on Component signal
Repeat
[A] Process
Pass
Check the signal of
L1200, L1202, L1203
Fail
Check JA1200 or
RCA CABLE
Pass
Check the input/
output of IC1
Fail
Re-soldering or
Change the defect part,
Check X11
Check the input/output
of IC800, IC851
Fail
Re-soldering or
Change the defect part
Pass
Check the input/
output of IC901
Fail
Re-soldering or
Change the defect part,
Check X900
Pass
Check input source cable and jack


No Raster on AV Signal
(Video, S-Video)
No Raster on TV(RF) signal
Repeat
[A] Process
Fail
Check the output of
TU1000
Fail
Check 5V, 33V of TU1000
Re-soldering or
Change the defect part
Pass
Check the signal of
L1209, L1210, L1212
Fail
Change L1209, L1210,
L1212
Pass
Check the input/output
of IC1
Fail
Re-soldering or
Change the defect part
Chek X11
Pass
Check the input/output
of IC800, IC851
Fail
Re-soldering or
Change the defect part
Pass
Check the input/output
of IC901
Fail
Re-soldering or
Change the defect part
Check X900
Pass
Check input source cable and jack


No Sound
Check the input source
Fail
Change source input
Pass
Check the input/output of IC1
Fail
Re-soldering or Change the defect part Check X11
Pass
Check the input/output of IC100,IC101
Fail
Re-soldering or Change the defect part
Pass
Check the speaker
Fail
Change speaker
Pass
Check the speaker wire

# BLOCK DIAGRAM



# BLOCK DIAGRAM DESCRIPTION

**1. Video Controller Unit & Display Data Conversion Unit**

The video controller unit receives the video signals inputted through the tuner, AV port (AV1, AV2, S-Video, component), and converts them into an analog RGB signal through the microcomputer (VCTI) combined with the video decoder that integrates various functions in one chip.

Either the analog RGB, component YPbPr or PC RGB signal is selected by the switching IC and inputted to a scaler (GM2221), which is sent to the LCD module after being modified to an LVDS signal through the integrated LVDS IC.

Or, it is sent to the LCD module as a TTL output.

VCTi is the main microprocessor that handles video signal processing and sound signal processing. It also manages the RF signals received from the tuner.

The scaler can control timing to fit into the LCD panel, and can also control the size and position of the input signal.

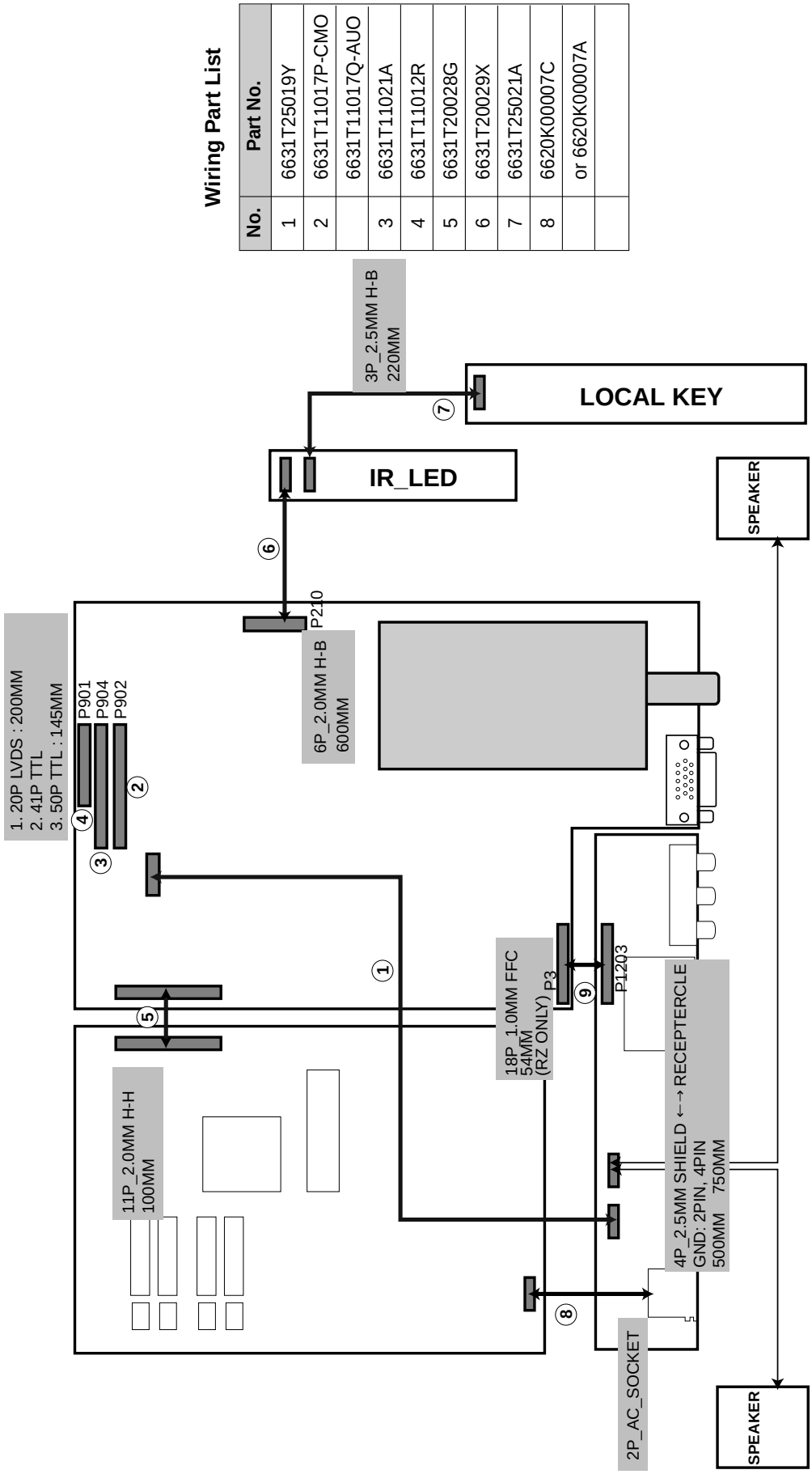
**2. Power Supply Unit**

The power supply unit provides 15V and 5V DC power to the mainboard.

The PWM Step-Up DC/DC Converter circuit is used to generate the 33V used for the tuner.

15V power is directly used by the sound amplifier IC and is also used to generate 5V power through the regulator. 12V power is used for the LCD panel power, and 5V power is converted to 3.3V and 1.8V power through the regulator, which in turn supplies electrical power for ICs such as VCTI and scaler.

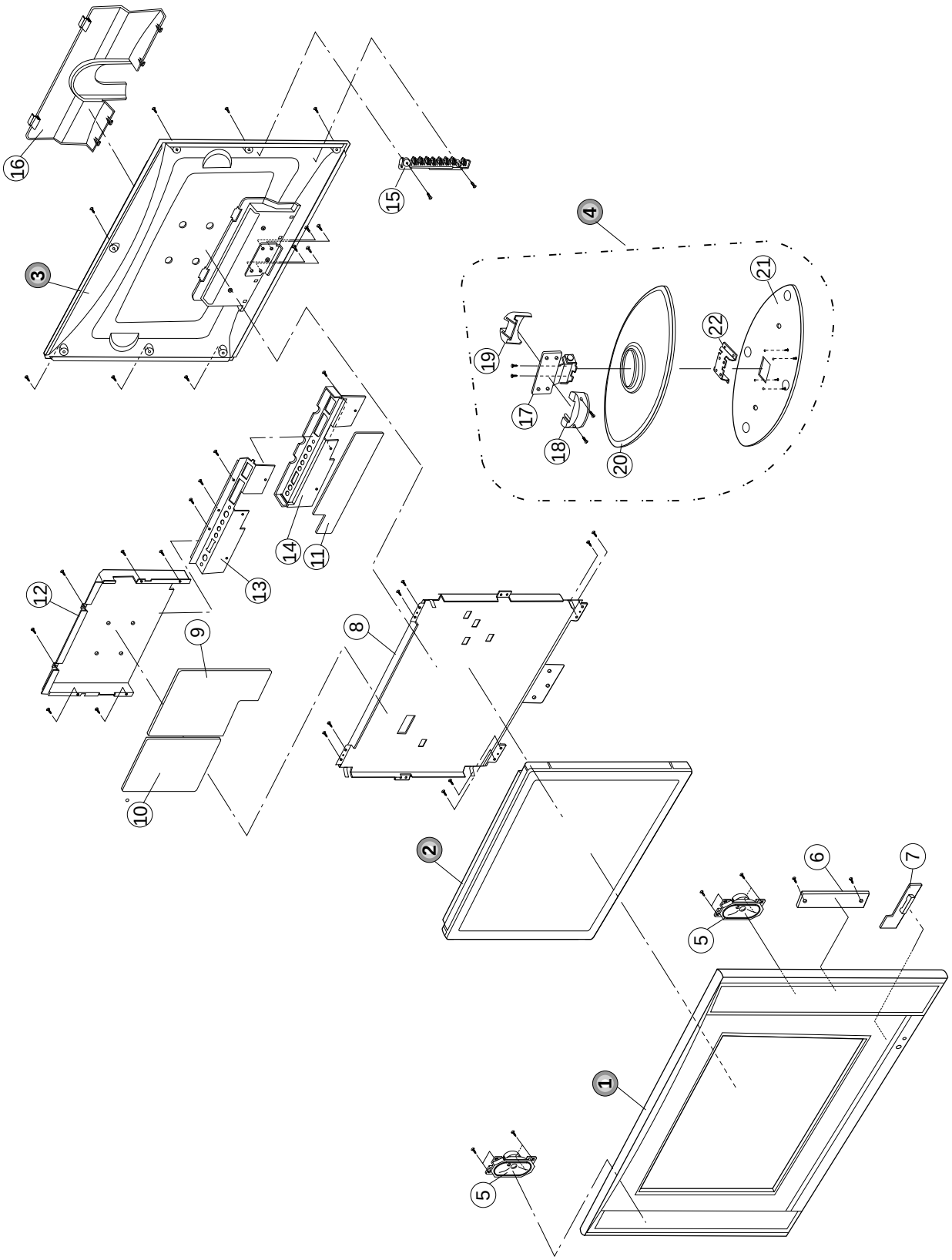
# WIRING DIAGRAM




**Wiring Part List**

| No. | Part No. |
|---|---|
| 1 | 6631T25019Y |
| 2 | 6631T11017P-CMO |
| | 6631T11017Q-AUO |
| 3 | 6631T11021A |
| 4 | 6631T11012R |
| 5 | 6631T20028G |
| 6 | 6631T20029X |
| 7 | 6631T25021A |
| 8 | 6620K00007C |
| | or 6620K00007A |
| | |

## EXPLODED VIEW



# EXPLODED VIEW PARTS LIST

| No. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 3091TKD005A | CABINET ASSEMBLY,RM-20LA77 BRAND 3090V00519 NON |
| 2 | 6306V20002A | LCD(LIQUID CRYSTAL DISPLAY), V201V1-T02 VGA CHIMEI TFT COLOR NON |
| 3 | 3809TKD002G | BACK COVER ASSEMBLY, RM-20LA77 3808V00407 CMO |
| 4 | 4811V00073A | BRACKET ASSEMBLY, STAND RZ-20LA70 NON . |
| 5 | 6400GKTX01C | SPEAKER,FULLRANGE, F1527C-6428-4 K-TONE FULL-RANGE(GENERAL) 4 OHM 7/12W 85DB OTHERS 40*70MM TRACK TYPE |
| 6 | 6871TST562A | PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND CONTROL BOARD ASSY |
| 7 | 6871TST563A | PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND IR BOARD ASSY |
| 8 | 4951TKS175C | METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(CMO) |
| 9 | 3313TP2019A | MAIN TOTAL ASSEMBLY, RM-20LA77 BRAND ML-041B |
| 10 | 6871TPT280A | PWB(PCB) ASSEMBLY,POWER, RM-20LA77 POWER TOTAL LIEN CHANG LIPS FOR CMO/AUO |
| 11 | 6871TST561A | PWB(PCB) ASSEMBLY,SUB, RM-20LA70 ML-041B SUB TOTAL BRAND JACK(DVD) BOARD ASSY |
| 12 | 4951TKK186A | METAL ASSEMBLY, SHIELD REAR RM-20LA77 |
| 13 | 4950TKK916A | METAL, PLATE 15, 20LA70 REAR A/V "B"T |
| 14 | 4810V00925B | BRACKET, REAR AV RZ-15LA70 ML024E HIPS . |
| 15 | 5020V00871A | BUTTON, CONTROL RZ-20LA70 ABS 8KEY . |
| 16 | 3550V00383A | COVER, REAR AV RZ-20LA70 HIPS 60HR . |
| 17 | 4950V00157E | METAL, HINGE ASSY NON 20LA70 |
| 18 | 4810V00767A | BRACKET, STAND 20LA60 ML012B NON HINGE FRONT |
| 19 | 4810V00768A | BRACKET, STAND 20LA60 ML012B NON HINGE COVER |
| 20 | 4810V00924A | BRACKET, STAND RZ-20LA70 NON ABS . |
| 21 | 4950V00194A | METAL, STAND SPCC(CR) SUPPORTER(LA70) |
| 22 | 4950V00193A | METAL, STAND SPCC(CR) BASE(20LA70) |

# REPLACEMENT PARTS LIST

For Capacitor & Resistors, the charactors at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic
CQ : Polyestor
CE : Electrolytic
CF : Fixed Film

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RH : CHIP, Metal Glazed(Chip)
RR : Drawing

DATE: 2004. 6. 16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | **MAIN BOARD** | | |
| | | **CAPACITOR** | | |
| | | C1008 | 0CE227CF638 | "220UF SHL,SD 16V M FM5 TP 5" |
| | | C1101 | 0CE227BH638 | 220U KME 25V M FM5 TP5 |
| | | C1104 | 0CE227BH638 | 220U KME 25V M FM5 TP5 |
| | | C1107 | 0CE227BH638 | 220U KME 25V M FM5 TP5 |
| | | C1140 | 0CE227BH638 | 220U KME 25V M FM5 TP5 |
| | | C1152 | 0CE107BK638 | 100UF KME 50V M FM5 TP5 |
| | | C123 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C124 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C131 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C132 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C133 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C134 | 0CE477BH618 | 470UF KME TYPE 25V M FL TP 5 |
| | | C1150 | 0CH3105F946 | 1UF 16V Z F 2012 R/TP |
| | | C1151 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C127 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C128 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C135 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C136 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C15 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C16 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C19 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C203 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C4 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C41 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C44 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C49 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C6 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C803 | 0CH3105F946 | 1UF 16V Z F 2012 R/TP |
| | | C804 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C808 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C810 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C812 | 0CH3105F946 | 1UF 16V Z F 2012 R/TP |
| | | C851 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C854 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C855 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C858 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C863 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C866 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C867 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C869 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C871 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C874 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C875 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C877 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C909 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C910 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C917 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C920 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C925 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C926 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C927 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C928 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C929 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |

DATE: 2004. 06.16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | C930 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C934 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C935 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C936 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C937 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C938 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C939 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C940 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C943 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C944 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C945 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C946 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C947 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C948 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C949 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C950 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C956 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C964 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C965 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C967 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C968 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C970 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C13 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C14 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C2 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C20 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C21 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C46 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C50 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C59 | 0CH6102K406 | 1000PF 50V J SL 2012 R/TP |
| | | C7 | 0CH6221K416 | 220PF 50V J NP0 2012 R/TP |
| | | C8 | 0CH6221K416 | 220PF 50V J NP0 2012 R/TP |
| | | C9 | 0CH6221K416 | 220PF 50V J NP0 2012 R/TP |
| | | C923 | 0CH6050K116 | 5PF 50V D NP0 2012 R/TP |
| | | C924 | 0CH6050K116 | 5PF 50V D NP0 2012 R/TP |
| | | C129 | 181-007F | "MPE ECQ-V1H224JL3(TR), 50V 0." |
| | | C130 | 181-007F | "MPE ECQ-V1H224JL3(TR), 50V 0." |
| | | C1007 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C1010 | 0CK273DK51A | 27000PF 2012 50V 10% B(Y5P) R |
| | | C1015 | 0CH5390K416 | 39PF 50V 5% NP0 2012 R/TP |
| | | C1016 | 0CH5390K416 | 39PF 50V 5% NP0 2012 R/TP |
| | | C107 | 0CK225DFK4A | "2.2UF 2012 16V 20%,-20% F(Y5V" |
| | | C109 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C110 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C113 | 0CK225DFK4A | "2.2UF 2012 16V 20%,-20% F(Y5V" |
| | | C900 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C902 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C955 | 0CH5390K416 | 39PF 50V 5% NP0 2012 R/TP |
| | | C1001 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C1002 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C1003 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C1004 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C11 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C114 | 0CK225DFK4A | "2.2UF 2012 16V 20%,-20% F(Y5V" |

DATE: 2004. 06.16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | C115 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C116 | 0CK562CK51A | 5600PF 1608 50V 10% R/TP B(Y5 |
| | | C117 | 0CK562CK51A | 5600PF 1608 50V 10% R/TP B(Y5 |
| | | C118 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C12 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C125 | 0CK105EK56A | 1UF 3216 50V 10% X7R R/TP |
| | | C126 | 0CK105EK56A | 1UF 3216 50V 10% X7R R/TP |
| | | C200 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C22 | 0CK822CK56A | 8200PF 1608 50V 10% X7R R/TP |
| | | C23 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C24 | 0CK822CK56A | 8200PF 1608 50V 10% X7R R/TP |
| | | C25 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C26 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C27 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C28 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C29 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C3 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C30 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C31 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C32 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C33 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C34 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C35 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C37 | 0CK334CF94A | "0.33UF 1608 16V 80%,-20% F(Y5" |
| | | C40 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C42 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C45 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C52 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C67 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C75 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C800 | 0CK105CF94A | "1UF 1608 16V 80%,-20% R/TP F(" |
| | | C801 | 0CK105CF94A | "1UF 1608 16V 80%,-20% R/TP F(" |
| | | C802 | 0CK105CF94A | "1UF 1608 16V 80%,-20% R/TP F(" |
| | | C807 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C811 | 0CK105CF94A | "1UF 1608 16V 80%,-20% R/TP F(" |
| | | C816 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C82 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C861 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C865 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C901 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C903 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C904 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C905 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C906 | 0CK103CK51A | 0.01UF 1608 50V 10% R/TP B(Y5 |
| | | C911 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C912 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C913 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C914 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C915 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C916 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C918 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C919 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C921 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C922 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C961 | 0CK104CK56A | 0.1UF 1608 50V 10% R/TP X7R |
| | | C121 | 0CC100CK41A | 10PF 1608 50V 5% R/TP NP0 |
| | | C122 | 0CC100CK41A | 10PF 1608 50V 5% R/TP NP0 |
| | | C43 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C47 | 0CC220CK41A | 22PF 1608 50V 5% R/TP NP0 |
| | | C48 | 0CC220CK41A | 22PF 1608 50V 5% R/TP NP0 |
| | | C53 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C56 | 0CC221CK41A | 220PF 1608 50V 5% R/TP NP0 |

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|---|---|---|---|---|
| | | C57 | 0CC221CK41A | 220PF 1608 50V 5% R/TP NP0 |
| | | C58 | 0CC221CK41A | 220PF 1608 50V 5% R/TP NP0 |
| | | C74 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C83 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C85 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C86 | 0CC102CK41A | 1000PF 1608 50V 5% R/TP NP0 |
| | | C88 | 0CC390CK41A | 39PF 1608 50V 5% R/TP NP0 |
| | | C89 | 0CC390CK41A | 39PF 1608 50V 5% R/TP NP0 |
| | | C108 | 0CE476VH6DC | 47UF MV 25V 20% R/TP(SMD) SMD |
| | | C1102 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1103 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1105 | 0CH8476F691 | 47UF 16V 20% 105STD (CYL) R/T |
| | | C1106 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1109 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C111 | 0CE475WJ6DC | 4.7UF MVK 35V 20% R/TP(SMD) S |
| | | C1118 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C112 | 0CE475WJ6DC | 4.7UF MVK 35V 20% R/TP(SMD) S |
| | | C1124 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1130 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1132 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1134 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C1135 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C119 | 0CH8106F691 | 10UF 16V 20% 105STD (CYL) R/T |
| | | C120 | 0CH8106F691 | 10UF 16V 20% 105STD (CYL) R/T |
| | | C17 | 0CE475WJ6DC | 4.7UF MVK 35V 20% R/TP(SMD) S |
| | | C5 | 0CE475WJ6DC | 4.7UF MVK 35V 20% R/TP(SMD) S |
| | | C55 | 0CE475VK6DC | 4.7UF MV 50V 20% R/TP(SMD) SM |
| | | C60 | 0CE475VK6DC | 4.7UF MV 50V 20% R/TP(SMD) SM |
| | | C852 | 0CH8476F691 | 47UF 16V 20% 105STD (CYL) R/T |
| | | C856 | 0CH8476F691 | 47UF 16V 20% 105STD (CYL) R/T |
| | | C859 | 0CH8476F691 | 47UF 16V 20% 105STD (CYL) R/T |
| | | C87 | 0CE107WF6DC | 100UF MVK 16V 20% R/TP(SMD) S |
| | | C876 | 0CH8106F691 | 10UF 16V 20% 105STD (CYL) R/T |
| | | **DIODEs** | | |
| | | D100 | 0DRFC00288A | SS14 FAIR CHILD R/TP SMA 20-1 |
| | | D101 | 0DRFC00288A | SS14 FAIR CHILD R/TP SMA 20-1 |
| | | D1150 | 0DRGS00199A | UF4001 GENERAL SEMICONDUCTOR |
| | | D102 | 0DS181009AA | KDS181 TP KEC SOT-23 80V 30 |
| | | D103 | 0DS181009AA | KDS181 TP KEC SOT-23 80V 30 |
| | | D107 | 0DS226009AA | KDS226 TP KEC SOT-23 80V 300 |
| | | ZD104 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD105 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD207 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD208 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD200 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD201 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD202 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD203 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD204 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD205 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | ZD206 | 0DZ510009EE | UDZ S 5.1B TP ROHM-K SOD323 2 |
| | | D1151 | 0DZ330009DF | MTZJ33B TP ROHM-K DO34 0.5W 3 |
| | | **IC** | | |
| | | IC905 | 0IZZTSA002A | ML-041B VGA NT ATMEL 32P PLCC |
| | | IC3 | 0IKE702700D | "KIA7027AF 3, SOT-89 TP RESET" |
| | | IC200 | 0IMMRSG036A | "M24C02-WMN6T SGS-THOMSON 8P,S" |
| | | IC4 | 0IMCRAL006A | AT24C16AN-10SI-2.7 ATMEL 8P S |
| | | IC903 | 0IMCRAL006A | AT24C16AN-10SI-2.7 ATMEL 8P S |

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|---|---|---|---|---|
| | | IC100 | 0IMCRMZ002A | MP7720 MONOLITHIC POWER SYSTE |
| | | IC101 | 0IMCRMZ002A | MP7720 MONOLITHIC POWER SYSTE |
| | | IC202 | 0IMO140662A | "MC14066BDR2 14P,SOIC TP BILAT" |
| | | IC1 | 0IPRPMN003C | VCT49XYF C7(NTSC+PAL) MICRONA |
| | | IC800 | 0IPRPNP001A | "SM5301BS(ATSC DTV) NPC 28P,HS" |
| | | IC901 | 0IPRPGN015A | "GM2221 GENESIS 208P,QFP TRAY" |
| | | IC1101 | 0IPMGFA061A | "FAN1587AD33X FAIRCHILD 3P,DPA" |
| | | IC1103 | 0IPMGSG018D | "LD1086DT18TR SGS-THOMSON 3P,D" |
| | | IC1108 | 0IMCRKE010A | KIA7812AF KEC 2P DPACK R/TP 1 |
| | | IC1111 | 0IMCRFA015A | KA7805R FAIRCHILD 2P D-PAK R/ |
| | | IC1105 | 0IPMGFA061A | "FAN1587AD33X FAIRCHILD 3P,DPA" |
| | | IC1106 | 0IPMGSG018D | "LD1086DT18TR SGS-THOMSON 3P,D" |
| | | IC1114 | 0IPMGFA061A | "FAN1587AD33X FAIRCHILD 3P,DPA" |
| | | IC1115 | 0IPMGFA061A | "FAN1587AD33X FAIRCHILD 3P,DPA" |
| | | IC1110 | 0ISS780800J | "KA78M08R 3P,D-PAK TP VOL. REG" |
| | | IC1113 | 0ISS780800J | "KA78M08R 3P,D-PAK TP VOL. REG" |
| **COIL & CORE & INDUCTOR** | | | | |
| | | L104 | 6140TBZ045A | "38.5UH(DIP), 6A, P7.5, DR8.3X" |
| | | L105 | 6140TBZ045A | "38.5UH(DIP), 6A, P7.5, DR8.3X" |
| | | L1150 | 150-985B | DR8*11 2.4MH 0.16MM 270.5T |
| | | L1100 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L1101 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L1103 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1104 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1105 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L1106 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L200 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L201 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L202 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L203 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L204 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L853 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L900 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L901 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L902 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L903 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | R215 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | R216 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L205 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L800 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L906 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L907 | 6210TCE001G | HH-1M3216-501 CERATEC 3216MM |
| | | L10 | 0LC1032101A | 10UH 10% 3216 R/TC FI-C3216-1 |
| | | L15 | 0LC1032101A | 10UH 10% 3216 R/TC FI-C3216-1 |
| | | L2 | 0LC1032101A | 10UH 10% 3216 R/TC FI-C3216-1 |
| | | L1001 | 0LC1020101A | 1UH 10% 2012 R/TC FI-B2012-10 |
| | | L1002 | 0LC1032101A | 10UH 10% 3216 R/TC FI-C3216-1 |
| | | L8 | 0LC1032101A | 10UH 10% 3216 R/TC FI-C3216-1 |
| **FET & TRANSISTOR** | | | | |
| | | IC1107 | 0TF492509AA | SI4925DY TP TEMIC 30V 6.1A S |
| | | Q1150 | 0TR322809AB | KTC3228-Y(KTC2383) TP KEC TO9 |
| | | Q1 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q603 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q100 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q1000 | 0TR388109AA | KTC3881 CHIP TP KEC - - |
| | | Q101 | 0TR150400BA | CHIP 2SA1504S(ASY) BK KEC - - |
| | | Q1100 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q1151 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |

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|---|---|---|---|---|
| | | Q12 | 0TR150400BA | CHIP 2SA1504S(ASY) BK KEC - - |
| | | Q13 | 0TR150400BA | CHIP 2SA1504S(ASY) BK KEC - - |
| | | Q14 | 0TR150400BA | CHIP 2SA1504S(ASY) BK KEC - - |
| | | Q15 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | IC902 | 0TFVI80005A | VISHAY SI4963DY R/TP SO-8 -20 |
| | | IC1104 | 0TFVI80005A | VISHAY SI4963DY R/TP SO-8 -20 |
| **RESISTORs** | | | | |
| | | R1010 | 0RH7501D622 | 7.5K 1/10W 5 D.R/TP |
| | | R1012 | 0RH7502D622 | 75K 1/10W 5 D.R/TP |
| | | R106 | 0RH1500D622 | 150 1/10W 5 D.R/TP |
| | | R107 | 0RH1003D622 | 100K 1/10W 5 D.R/TP |
| | | R1151 | 0RH4700D622 | 470 1/10W 5 D.R/TP |
| | | R1153 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R126 | 0RH4701D622 | 4.7K 1/10W 5 D.R/TP |
| | | R132 | 0RH1003D622 | 100K 1/10W 5 D.R/TP |
| | | R133 | 0RH1003D622 | 100K 1/10W 5 D.R/TP |
| | | R134 | 0RH1003D622 | 100K 1/10W 5 D.R/TP |
| | | R135 | 0RH1003D622 | 100K 1/10W 5 D.R/TP |
| | | R14 | 0RH4701D622 | 4.7K 1/10W 5 D.R/TP |
| | | R140 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R141 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R142 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R143 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R144 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R145 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R146 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R147 | 0RH0392D622 | 39 1/10W 5 D.R/TP |
| | | R201 | 0RH4701D622 | 4.7K 1/10W 5 D.R/TP |
| | | R204 | 0RH4701D622 | 4.7K 1/10W 5 D.R/TP |
| | | R211 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R212 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R213 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R214 | 0RH4703D622 | 470K 1/10W 5 D.R/TP |
| | | R217 | 0RH4703D622 | 470K 1/10W 5 D.R/TP |
| | | R222 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R223 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R228 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R57 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R59 | 0RH1201D622 | 1.2K 1/10W 5 D.R/TP |
| | | R6 | 0RH4702D622 | 47K 1/10W 5 D.R/TP |
| | | R818 | 0RH8200D622 | 820 1/10W 5 D.R/TP |
| | | R9 | 0RH4701D622 | 4.7K 1/10W 5 D.R/TP |
| | | R908 | 0RH0822D622 | 82 1/10W 5 D.R/TP |
| | | R910 | 0RH0822D622 | 82 1/10W 5 D.R/TP |
| | | R915 | 0RH3600D622 | CHIP 360-J 1/10 W |
| | | R934 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R989 | 0RH8200D622 | 820 1/10W 5 D.R/TP |
| | | R999 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R136 | 0RH8202D622 | 82K 1/10W 5 D.R/TP |
| | | R137 | 0RH8202D622 | 82K 1/10W 5 D.R/TP |
| | | C931 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | C932 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | C933 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | L905 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R1011 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R1106 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |
| | | R1152 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R12 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R128 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |
| | | R129 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |

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|---|---|---|---|---|
| | | R13 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R202 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R208 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R209 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R210 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R37 | 0RH0222D622 | 22 OHM 1 / 10 W 2012 5.00% D |
| | | R7 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R817 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R822 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |
| | | R834 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R836 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R837 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R961 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R964 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |
| | | R10 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R1001 | 0RJ0562D677 | 56 OHM 1/10 W 5% 1608 R/TP |
| | | R1002 | 0RJ1501D677 | 1.5K OHM 1/10 W 5% 1608 R/TP |
| | | R1003 | 0RJ8200D677 | 820 OHM 1/10 W 5% 1608 R/TP |
| | | R1004 | 0RJ3000D677 | 300 OHM 1/10 W 5% 1608 R/TP |
| | | R1005 | 0RJ0682D677 | 68 OHM 1/10 W 5% 1608 R/TP |
| | | R1014 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R11 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R1105 | 0RJ1001D677 | 1K OHM 1/10 W 5% 1608 R/TP |
| | | R1107 | 0RJ4701D677 | 4.7K OHM 1/10 W 5% 1608 R/TP |
| | | R1149 | 0RH1002D622 | 10K OHM 1 / 10 W 2012 5.00% D |
| | | R1150 | 0RJ0102D677 | 10 OHM 1/10 W 5% 1608 R/TP |
| | | R124 | 0RJ1500D677 | 150 OHM 1/10 W 5% 1608 R/TP |
| | | R125 | 0RJ4701D677 | 4.7K OHM 1/10 W 5% 1608 R/TP |
| | | R127 | 0RJ2701D677 | 2.7K OHM 1/10 W 5% 1608 R/TP |
| | | R130 | 0RJ1202D677 | 12K OHM 1/10 W 5% 1608 R/TP |
| | | R131 | 0RJ1202D677 | 12K OHM 1/10 W 5% 1608 R/TP |
| | | R138 | 0RJ1002D677 | 10K OHM 1/10 W 5% 1608 R/TP |
| | | R139 | 0RJ1002D677 | 10K OHM 1/10 W 5% 1608 R/TP |
| | | R15 | 0RJ0822D677 | 82 OHM 1/10 W 5% 1608 R/TP |
| | | R16 | 0RJ2200D677 | 220 OHM 1/10 W 5% 1608 R/TP |
| | | R17 | 0RJ0822D677 | 82 OHM 1/10 W 5% 1608 R/TP |
| | | R18 | 0RJ2200D677 | 220 OHM 1/10 W 5% 1608 R/TP |
| | | R19 | 0RJ0822D677 | 82 OHM 1/10 W 5% 1608 R/TP |
| | | R20 | 0RJ2200D677 | 220 OHM 1/10 W 5% 1608 R/TP |
| | | R203 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R205 | 0RJ0222D677 | 22 OHM 1/10 W 5% 1608 R/TP |
| | | R206 | 0RJ1001D677 | 1K OHM 1/10 W 5% 1608 R/TP |
| | | R207 | 0RJ1001D677 | 1K OHM 1/10 W 5% 1608 R/TP |
| | | R21 | 0RJ0222D677 | 22 OHM 1/10 W 5% 1608 R/TP |
| | | R22 | 0RJ1500D677 | 150 OHM 1/10 W 5% 1608 R/TP |
| | | R221 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R224 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R225 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R226 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R23 | 0RJ2701D677 | 2.7K OHM 1/10 W 5% 1608 R/TP |
| | | R24 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R240 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R25 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R28 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R29 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R34 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R41 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R45 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R46 | 0RJ1001D677 | 1K OHM 1/10 W 5% 1608 R/TP |
| | | R49 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R50 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R51 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |

DATE: 2004. 06.16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | R52 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R53 | 0RJ1500D677 | 150 OHM 1/10 W 5% 1608 R/TP |
| | | R54 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R55 | 0RJ1500D677 | 150 OHM 1/10 W 5% 1608 R/TP |
| | | R56 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R58 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R60 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R62 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R64 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R66 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R68 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R69 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R70 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R72 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R73 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R74 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R75 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R76 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R77 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R78 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R8 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R80 | 0RJ2202D677 | 22K OHM 1/10 W 5% 1608 R/TP |
| | | R901 | 0RJ0472D677 | 47 OHM 1/10 W 5% 1608 R/TP |
| | | R902 | 0RJ0472D677 | 47 OHM 1/10 W 5% 1608 R/TP |
| | | R904 | 0RJ0472D677 | 47 OHM 1/10 W 5% 1608 R/TP |
| | | R907 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R909 | 0RJ0822D677 | 82 OHM 1/10 W 5% 1608 R/TP |
| | | R911 | 0RJ4701D677 | 4.7K OHM 1/10 W 5% 1608 R/TP |
| | | R912 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R913 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R914 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R917 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R928 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R929 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R930 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R931 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R932 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R935 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R936 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R938 | 0RJ1002D677 | 10K OHM 1/10 W 5% 1608 R/TP |
| | | R939 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R940 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R941 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R942 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R943 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R944 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R945 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R946 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R947 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R952 | 0RJ0000D677 | 0 OHM 1/10 W 5% 1608 R/TP |
| | | R953 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R954 | 0RJ1002D677 | 10K OHM 1/10 W 5% 1608 R/TP |
| | | R96 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R979 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R980 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R981 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R982 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R983 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R984 | 0RJ1000D677 | 100 OHM 1/10 W 5% 1608 R/TP |
| | | R991 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |
| | | R992 | 0RJ3301D677 | 3.3K OHM 1/10 W 5% 1608 R/TP |

DATE: 2004. 06.16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | **OTHERs** | | |
| | | Z1000 | 6200QL3002F | "X6966M EPCOS ST SIP5K, 6200QL" |
| | | X11 | 6202VDT002E | SX-1SMD SUNNY RADIAL 20250000 |
| | | X900 | 6202VDT002B | SX-1 SUNNY SC14.3MHZ +/- 30 P |
| | | IC905 | 6620F00017A | CCSD-32T-SM WOOYOUNG 32P PLCC |
| | | TU1000 | 6700VS0003C | TAEW-G051P LG INOTEK MULTI VS |
| | | **CONTROL BOARD** | | |
| | | R2200 | 0RN1101F409 | 1.10K 1/6W 1% TA52 |
| | | R2201 | 0RN8200F409 | 820 1/6W 1% TA52 |
| | | R2202 | 0RN5600F409 | 560 1/6W 1% TA52 |
| | | R2203 | 0RN4700F409 | 470 1/6W 1 TA52 |
| | | R2204 | 0RN3900F409 | 390 1/6W 1% TA52 |
| | | R2205 | 0RN3300F409 | 330 1/6W 1% TA52 |
| | | R2206 | 0RN2700F409 | 270 1/6W 1% TA52 |
| | | R2207 | 0RN3301F409 | 3.30K 1/6W 1% TA52 |
| | | R2208 | 0RN2000F409 | 200 1/6W 1% TA52 |
| | | SW2200 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2201 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2202 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2203 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2204 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2205 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2206 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | SW2207 | 140-313A | TACT 2LEAD 100G(TA) LG C&D NO |
| | | **IR BOARD** | | |
| | | C2101 | 0CH3104K566 | 0.1UF 50V 10% X7R 2012 R/TP |
| | | L2101 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | Q2101 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q2102 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | Q2103 | 0TR387500AA | CHIP 2SC3875S(ALY) BK KEC - - |
| | | R2101 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R2102 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R2103 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R2104 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R2105 | 0RH1001D622 | 1K OHM 1 / 10 W 2012 5.00% D |
| | | R2106 | 0RH1000D622 | 100 1/10W 5 D.R/TP |
| | | R2111 | 0RH4301D622 | 4.3K 1/10W 5 TA |
| | | R2113 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | LED2100 | 0DL200000CA | SAM5670(DL-2LRG) BK Y-GREEN - |
| | | PA2101 | 6726TV0001A | TSOP4838SO1 VISHAY 38.0KHZ HO |
| | | **JACK BOARD** | | |
| | | C1217 | 0CH3104K946 | 100000PF 50V Z F 2012 R/TP |
| | | C1221 | 0CH6331K416 | 330PF 50V J NP0 2012 R/TP |
| | | C1223 | 0CH6471K416 | 470F 50V J NP0 2012 R/TP |
| | | C1224 | 0CH6471K416 | 470F 50V J NP0 2012 R/TP |
| | | C1218 | 0CH6331K416 | 330PF 50V J NP0 2012 R/TP |
| | | C1219 | 0CH6331K416 | 330PF 50V J NP0 2012 R/TP |
| | | C1220 | 0CH6331K416 | 330PF 50V J NP0 2012 R/TP |
| | | C1215 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | C1216 | 0CH3103K516 | 10000PF 50V 10% B(Y5P) 2012 R |
| | | L1206 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1207 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1208 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1211 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1213 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | L1214 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |

DATE: 2004. 06.16.

| *S | *AL | LOC. NO. | PART NO. | DESCRIPTION / SPECIFICATION |
|---|---|---|---|---|
| | | L1215 | 6210TCE001A | HB-1S2012-080JT CERATEC 2012M |
| | | ZD1200 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1206 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1207 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1212 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1213 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1214 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1210 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | ZD1211 | 0DZ620009HB | UDZ S 6.2B TP ROHM SOD323 200 |
| | | L1212 | 0LC0233002A | 3.3UH CERATECH R/TP |
| | | L1209 | 0LC0233002A | 3.3UH CERATECH R/TP |
| | | L1210 | 0LC0233002A | 3.3UH CERATECH R/TP |
| | | JA1201 | 6613V00008F | PMJ014F PARK ELEC E/P(ST)+S-V |
| | | JA1200 | 6612VJH008D | PJ6063D PARKELEC DVD IN 3P GN |
| | | L1200 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1202 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1217 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1218 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1219 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1220 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1230 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1231 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1232 | 0RH5101D622 | 5.1K 1/10W 5 D.R/TP |
| | | R1233 | 0RH4703D622 | 470K 1/10W 5 D.R/TP |
| | | R1234 | 0RH5101D622 | 5.1K 1/10W 5 D.R/TP |
| | | R1235 | 0RH4703D622 | 470K 1/10W 5 D.R/TP |
| | | R1226 | 0RH0472D622 | 47 1/10W 5 D.R/TP |
| | | R1227 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1228 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | R1229 | 0RH0752D622 | 75 1/10W 5 D.R/TP |
| | | L1202 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | L1203 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R1201 | 0RH0000D622 | 0 OHM 1 / 10 W 2012 5.00% D |
| | | R1224 | 0RJ1000H680 | 100 OHM 1/2 W 5% 5025 R/TP |
| | | R1225 | 0RJ1000H680 | 100 OHM 1/2 W 5% 5025 R/TP |
| | | P1205 | 6620K00007C | "ISHENG,7007,M.MOUSE,60MM,YH39" |

IC1
VCT49xyF

IC2
(PC & M)LA7222

IC4
AT24C16

TUNER
(SAW FILTER)
TU1000
TUNER LEG + GND

VIDEO OUT BUFFER

P2
18P_1MM_FFC

P3
(PAL)18P_1MM_FFC



IC800
SM5301BS

IC851
(PC)M52758FP



IC500
(M)TC90A65F
I2C ADDR : W:B2H / R:B3H



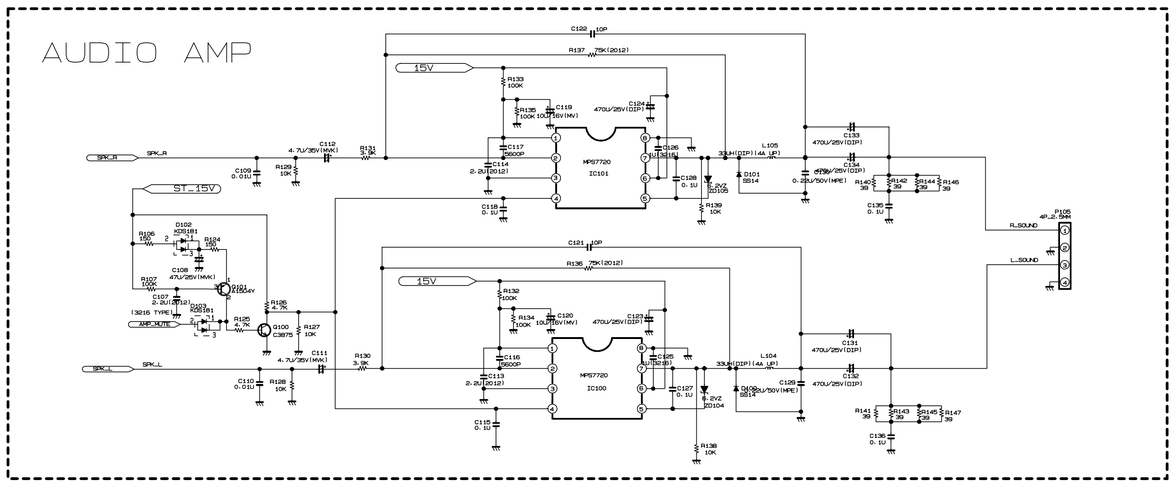
IC901
gm5221

P902
(LPL_15)21P_LVDS

P904
(CMO_20)50P_TTL

P901
(LPL_20)41P_TTL

IC902
ST485

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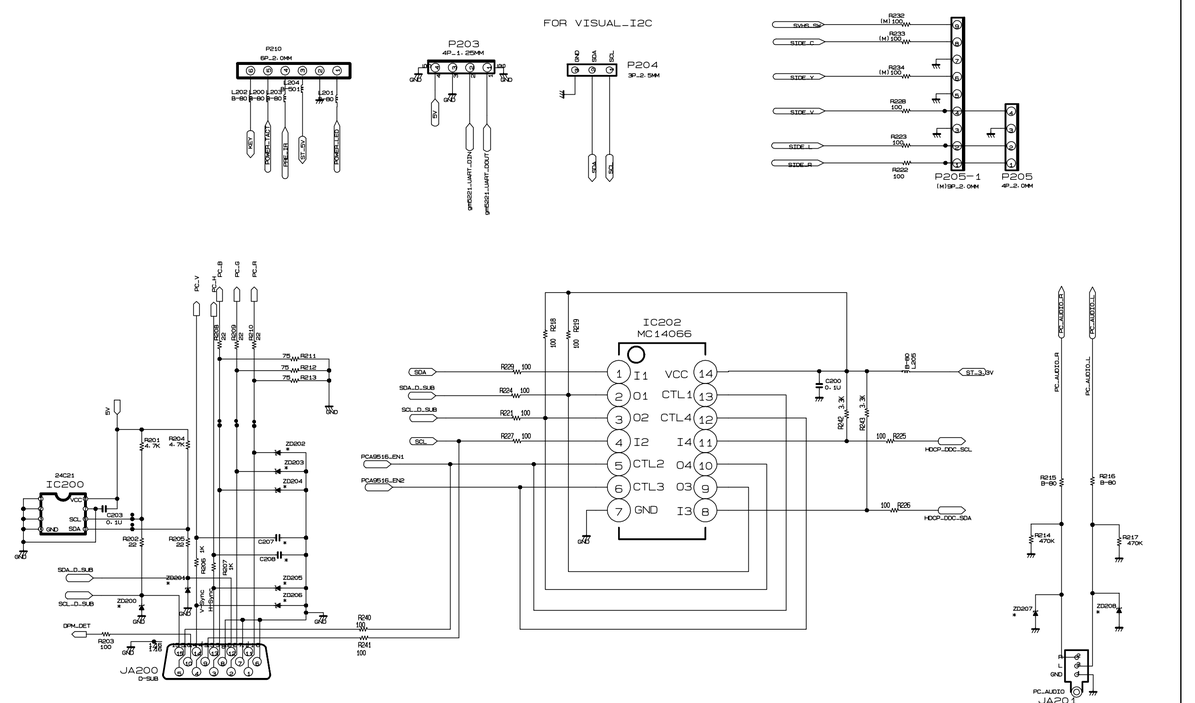
| LG전자 | | DWG NO. | |



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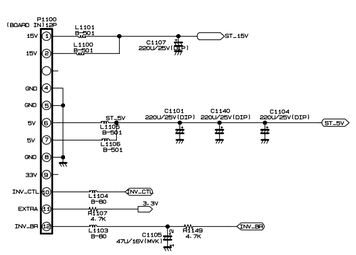


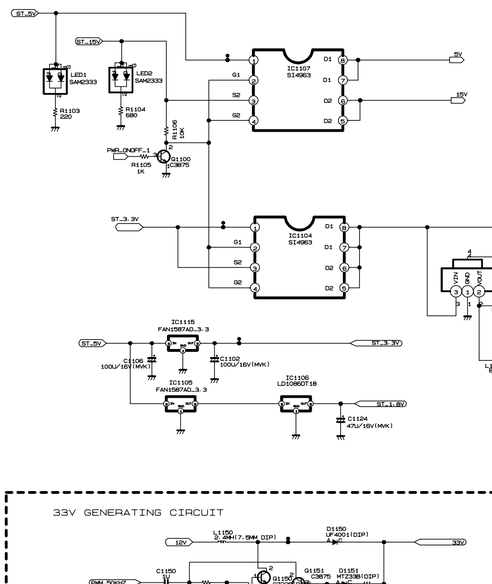


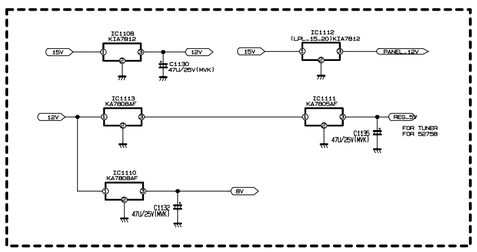


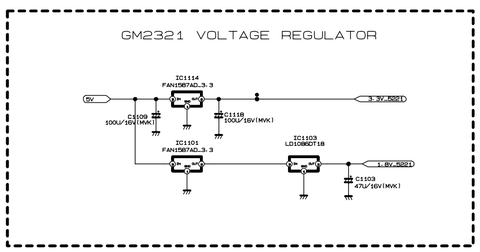


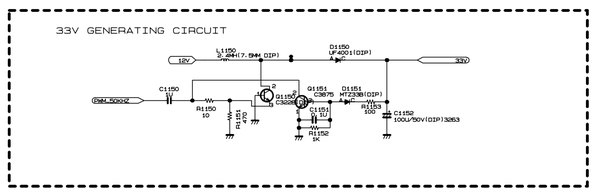


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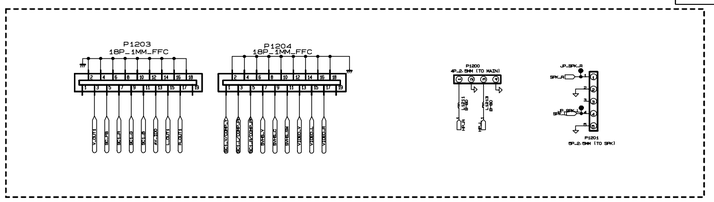
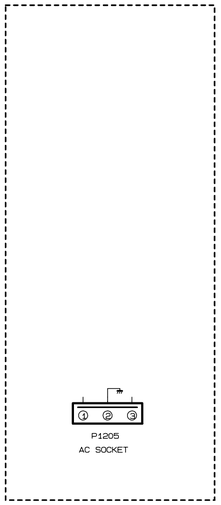
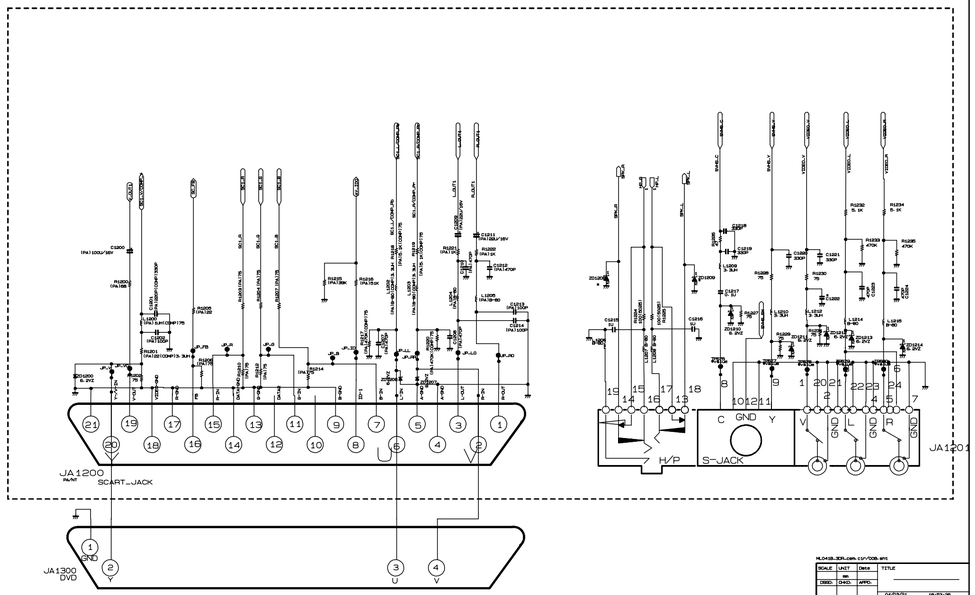
| LG전자 | | DWG NO. | |



# #AV BOARD#

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| SCALE | UNIT | Date | TITLE |
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| | | 04/03/21 | 18:53:26 |
| LG전자 | | DWG NO. | |

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